Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Conditional Major Permit No. F-05-052
MILITARY PACKAGING, INC.
FLORENCE, KY.
June 19, 2006
SUKHENDU K MAJUMDAR, REVIEWER
Plant I.D. # 21-015-00104
SIC/Source: 3086
AI # 37213

STATEMENT OF BASIS:

SOURCE DESCRIPTION:

Military Packaging, Inc. submitted an application for a major revision of construction/operating permit that was received by the Division for Air Quality on September 7, 2005 Military Packaging, Inc. has asked that a federally enforceable permit be written that requires Volatile Organic Compounds (VOC) control. This keeps their potential to emit of VOCs under the major source threshold. Military Packaging, Inc. manufactures polystyrene packaging material for packaging industries. The application involves the expansion of the existing facility to meet the demand of their products.

The Military Packaging, Inc. site is located at 250 Aristocrat Drive, Florence, in Boone county, Kentucky. The processes to be performed at the facility will include the following:

1. Unloading of 1000 pound Gaylord boxes or 2000 pound bags expandable polystyrene beads.
2. Beads are fed into Pre-expander where they are heated and expanded to the proper density.
3. Next step is pre-puff aging process where the beads are stabilized for 12 hours.
4. After stabilization the beads are fed to the molding line where the beads are heated and molded in the heated molds to form the final products.
5. Mold products are moved to storage area in preparation for shipment.

The unexpanded polystyrene beads typically contain 5 to 6.5% of pentane which is the blowing agent to expand the polystyrene beads. In the packaging product manufacturing process, 73% of the pentane from the original pentane concentration of the beads is evaporated during the heating and stabilization steps. In the pre-expander and pre-puff steps, the exhaust hood will be used to collect 85% of the pentane and would be diverted to the Regenerative Thermal Oxidizer (RTO) to destroy 95% of the pentane. Pentane is Volatile Organic Compound (VOC) not a Hazardous Air Pollutant. After the addition of new equipment the facility will process 0.5 tons of beads per hour.

COMMENTS:

Type of control and efficiency

Particulate Control:
The facility will burn natural gas in the two boilers. Particulate emission from the facility is

insignificant.

Military Packaging, Inc. has asked that a federally enforceable construction/operating permit be written that requires VOC control. This keeps their potential to VOC under the major source threshold of 100 tons per year.

Emission Unit	Type of Control	Control Efficiency
03 Pre-Expander	Exhaust hood	0.85
04 Pre-puff Aging Process	Exhaust hood	0.85
08 Regenerative Thermal Oxidizer (RTO)	Oxidizer	0.95

Emission factors and their source

Emission Unit	Emission Factor	Source
03 Pre-Expander	32.5lb/ Ton raw material	Engineering Estimate
04 Pre-puff Aging Process	26.0lb/Ton of material stabilized.	Material Balance.
08 Regenerative Thermal Oxidizer (RTO)	25.4 lb of C5/ton	AP-42: 1.4& Material Balance.

There are no controls on the Molding lines and fugitive emissions from the storage area.

EMISSION AND OPERATING CAPS DESCRIPTION:

Particulate Control
Particulate emission from the facility is negligible.

VOC (Pentane)

Military Packaging, Inc. has requested federally enforceable limits to keep their potential to emit VOCs below major source levels.

Emission Limitations:

The existing #1 boiler and to be installed #2 boiler burns natural gas all the time. Exhaust gases from the enclosed hood for the Pre-Expander and Pre-Puff Aging area containing pentane shall be going to the regenerative thermal oxidizer (RTO) all the time and capture and destruction efficiency of the regenerative thermal oxidizer to be 85% and 95% respectively to avoid requirement of a Title V permit. Total VOC emissions including fugitives shall be less than 90 tons per year.

Specific Monitoring Requirements:

The permittee shall calibrate, maintain, and operate according to manufacturer's specifications a monitoring device for the continual measurement of the combustion chamber temperature of the oxidizer.

Specific Recordkeeping Requirements:

The permittee shall maintain records of the following:
a. Each incident when VOC emissions are not properly controlled by the oxidizer. This record shall include the date, time, duration, cause, and any corrective action taken.
b. Continuous records of the combustion chamber temperature of the oxidizer.
c. All maintenance activities performed at the oxidizer, including preventive maintenance and routine inspections.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provision of 40 CFR Part 60. Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.

Public Comments:

Public notice for the permit went on circulation March 9, 2006 in a local newspaper, Kentucky Community Classified. The Division did not receive any comments during the 30-day public comment period.